

CLAIMS

What is claimed is:

1. A method for reducing the emission of waste oxide gas of an industrial process, comprising the steps of:
 - a. directing a waste stream to a thermal oxidizer;
 - b. combusting at least a portion of the waste stream in the primary combustion zone of the thermal oxidizer; and
 - c. injecting at least a portion of the waste stream in the downstream waste destruction zone of the thermal oxidizer.
2. The method of claim 1 wherein the waste stream comprises approximately at least 0.5 mole% of reactive waste components and up to approximately 99.5 mole% of inert components.
3. The method of claim 1 further comprising, supplying an aqueous waste stream to the primary combustion zone.
4. The method of claim 1 further comprising, supplying ancillary waste to the downstream waste destruction zone wherein the ancillary waste is selected from the group consisting of aqueous waste and alternative waste.
5. The method of claim 1 wherein the product produced by the industrial process is selected from the group consisting of acrylic acid, methacrylic acid,

acrolein, methacrolein, hydrogen cyanide, acrylonitrile, methacrylonitrile, phthalic anhydride, maleic anhydride, and mixtures thereof.

6. A method for reducing the emission of waste oxide gas of an industrial chemical process, said industrial chemical process producing products selected from the group consisting of: methacrylic acid, acrolein, methacrolein, hydrogen cyanide, acrylonitrile, methacrylonitrile, phthalic anhydride, maleic anhydride, and mixtures thereof, comprising the steps of:

- a. directing a waste stream to a horizontal thermal oxidizer;
- b. combusting at least a portion of the waste stream in the primary combustion zone of the thermal oxidizer; and
- c. injecting at least a portion of the waste stream in the downstream waste destruction zone of the thermal oxidizer.

7. The method of claim 6 wherein the at least one waste stream comprises approximately at least 0.5 mole% of reactive waste components and approximately up to 99.5 mole% of inert components.

8. The method of claim 6 further comprising, supplying an aqueous waste stream to the primary combustion zone.

9. The method of claim 6 further comprising, supplying ancillary waste to the downstream waste destruction zone wherein the ancillary waste is selected from the group consisting of aqueous waste and alternative waste.